

WHAT IS CLAIMED IS:

1. A stator core for a dynamoelectric machine,
said stator core being formed into a cylindrical shape by abutting at least one laminated core division shaped by bending a rectangular parallelepiped laminated body;

said laminated body being formed by laminating a plurality of thin strip-shaped magnetic plates in which a plurality of teeth extending perpendicular to a longitudinal direction are formed at a predetermined spacing in said longitudinal direction; and

a plurality of slots defined by adjacent pairs of said teeth being formed in a circumferential direction of said stator core such that slot grooves lie in an axial direction of said stator core and slot openings face an inner circumferential side of said stator core,

wherein an inner and an outer core-joining weld portion for joining and integrating an abutted portion of said laminated core division are formed so as to extend in an axial direction on an inner circumferential side and an outer circumferential side of said abutted portion of said laminated core division,

first inner and first outer plate-joining weld portions for joining and integrating said laminated thin magnetic plates are formed so as to extend in said axial direction in proximity to said inner and outer core-joining weld portions on inner circumferential surfaces and outer circumferential surfaces at first and second circumferential end portions of said laminated core division, and

a second outer plate-joining weld portion for joining and integrating said laminated thin magnetic plates is formed so as to extend in an axial direction on an outer circumferential surface of said laminated core division.

2. The stator core for a dynamoelectric machine according to Claim 1 wherein weld depths of said first inner and first outer plate-joining weld portions and said second outer plate-joining weld portion vary relative to an axial direction.

3. The stator core for a dynamoelectric machine according to Claim 1 wherein said first inner plate-joining weld portions are formed on inner circumferential surfaces of tips of said teeth.

4. The stator core for a dynamoelectric machine according to Claim 3 wherein said abutted portion of said laminated core division is positioned on a circumferentially-central portion of one of said teeth, said first inner plate-joining weld portions being formed on mutually opposite sides of said inner core-joining weld portion on said tooth constituting said abutted portion.

5. The stator core for a dynamoelectric machine according to Claim 3 wherein second inner plate-joining weld portions for joining and integrating said laminated thin magnetic plates are formed so as to extend in an axial direction on inner circumferential surfaces of tips of all of said teeth except for said teeth on which said first inner plate-joining weld portions are formed.

6. The stator core for a dynamoelectric machine according to Claim 5 wherein a weld depth of said second inner plate-joining weld portion varies relative to an axial direction.

7. The stator core for a dynamoelectric machine according to Claim 1 wherein said first and second outer plate-joining weld portions are

positioned radially outside said teeth.

8. A stator for a dynamoelectric machine comprising:

a cylindrical stator core in which a plurality of slots defined by adjacent pairs of teeth are formed in a circumferential direction such that slot grooves lie in an axial direction and slot openings face an inner circumferential side; and

a stator winding installed in said stator core,

wherein said stator core is formed into a cylindrical shape by abutting first and second circumferential end surfaces of a laminated core shaped by bending a rectangular parallelepiped laminated body into an annular shape, said laminated body being formed by laminating a plurality of thin strip-shaped magnetic plates in which a plurality of teeth extending so as to be perpendicular to a longitudinal direction are formed at a predetermined spacing in said longitudinal direction,

an inner and an outer core-joining weld portion for joining and integrating said abutted portion of said laminated core are formed so as to extend in an axial direction on an inner circumferential side and an outer circumferential side of said abutted portion of said laminated core,

first inner and first outer plate-joining weld portions for joining and integrating said laminated thin magnetic plates are formed so as to extend in said axial direction in proximity to said inner and outer core-joining weld portions on inner circumferential surfaces and outer circumferential surfaces at first and second circumferential end portions of said laminated core, and

a second outer plate-joining weld portion for joining and integrating said laminated thin magnetic plates is formed so as to extend in an axial direction on an outer circumferential surface of said laminated core.

9. The stator for a dynamoelectric machine according to Claim 8 wherein weld depths of said first inner and first outer plate-joining weld portions and said second outer plate-joining weld portion vary relative to an axial direction.

10. The stator for a dynamoelectric machine according to Claim 8 wherein said first inner plate-joining weld portions are formed on inner circumferential surfaces of tips of said teeth.

11. The stator for a dynamoelectric machine according to Claim 10 wherein said abutted portion of said laminated core is positioned on a circumferentially-central portion of one of said teeth, said first inner plate-joining weld portions being formed on mutually opposite sides of said inner core-joining weld portion on said tooth constituting said abutted portion.

12. The stator for a dynamoelectric machine according to Claim 10 second inner plate-joining weld portions for joining and integrating said laminated thin magnetic plates are formed so as to extend in an axial direction on inner circumferential surfaces of tips of all of said teeth except for said teeth on which said first inner plate-joining weld portions are formed.

13. The stator for a dynamoelectric machine according to Claim 12 wherein a weld depth of said second inner plate-joining weld portion varies relative to an axial direction.

14. The stator for a dynamoelectric machine according to Claim 8 wherein said first and second outer plate-joining weld portions are positioned radially outside said teeth.

15. The stator for a dynamoelectric machine according to Claim 8 wherein said rectangular parallelepiped laminated body is shaped by bending into an annular shape with said stator winding mounted in said slots.

16. The stator for a dynamoelectric machine according to Claim 15 wherein said stator winding is installed such that a conductor wire alternately occupies an inner layer and an outer layer in a slot depth direction in said slots at intervals of a predetermined number of slots.

17. A method for manufacturing a stator core for a dynamoelectric machine comprising the steps of:

preparing thin magnetic plates of a predetermined length from a strip-shaped body composed of a magnetic material, a plurality of teeth being formed on said thin magnetic plates at a predetermined spacing;

preparing a rectangular parallelepiped laminated body by laminating a predetermined number of said thin magnetic plates such that said teeth are superposed on each other;

forming a second outer plate-joining weld portion by welding a predetermined position on an outer surface of said laminated body so as to extend across an entire width region of said outer surface, said outer surface being on an opposite side from said teeth;

forming first outer plate-joining weld portions by welding a vicinity of first and second longitudinal end portions on the outer surface of said laminated body so as to extend across an entire width region of said outer surface of said laminated body;

forming first inner plate-joining weld portions by welding a vicinity of first and second longitudinal end portions on an inner surface of said

laminated body so as to extend across an entire width region of said inner surface of said laminated body;

preparing a laminated core division by bending said laminated body on which said first and said second outer plate-joining weld portions and said first inner plate-joining weld portions are formed; and

integrating said laminated core division into a cylindrical shape by abutting at least one of said laminated core divisions and welding an outer surface and an inner surface of an abutted portion thereof so as to extend across an entire axial region of said laminated core division.

18. The method for manufacturing a stator core for a dynamoelectric machine according to Claim 17 wherein said first inner plate-joining weld portions are formed on inner circumferential surfaces of tips of said teeth.

19. The method for manufacturing a stator core for a dynamoelectric machine according to Claim 18 wherein said abutted portion of said laminated core division is positioned on a circumferentially-central portion of one of said teeth, said first inner plate-joining weld portions being formed on mutually opposite sides of an inner core-joining weld portion formed by welding the inner surface of said abutted portion on said tooth constituting said abutted portion.

20. The method for manufacturing a stator core for a dynamoelectric machine according to Claim 18 further including the step of forming second inner plate-joining weld portions by welding inner circumferential surfaces of tips of all of said teeth except for said teeth on which said first inner plate-joining weld portions are formed so as to extend across an entire axial region, formation of said second inner plate-joining weld portions being performed before preparing said laminated core division by bending said

laminated body.